

Please add new claims 78-157 as follows:

Sub Q1
--78. A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

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a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein the source and the drain regions have at least one portion containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub F1
~~79. A device according to claim 78 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Sub I3
80. A device according to claim 78 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

81. A device according to claim 80 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub G2
82. A device according to claim 78 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 19
83. A device according to claim 78 wherein portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

Sub 33
84. A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

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a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein the source and the drain regions have at least one portion containing carbon at a concentration of 1×10^{19} atoms/cm³ or more.

Sub F2
~~85. A device according to claim 84 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Sub 18
86. A device according to claim 84 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

87. A device according to claim 86 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub 34
88. A device according to claim 84 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 110
89. A device according to claim 84 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

Sub 35
90. A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

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a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein the source and the drain regions have at least one portion containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub 1
F3
91. A device according to claim 90 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.

Sub 13
92. A device according to claim 90 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

93. A device according to claim 92 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub 26 > 94. A device according to claim 90 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 157 > 95. A device according to claim 90 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

Sub 37 > 96. A semiconductor device for electro-optical device comprising a CMOS device comprising n-channel and p-channel TFTs, each of said n-channel and p-channel TFTs comprising:

a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein the source and the drain regions have at least one portion containing oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub F4 > ~~97. A device according to claim 96 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Sub G8
118
98. A device according to claim 96 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

99. A device according to claim 98 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub G8
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100. A device according to claim 96 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

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Sub G8
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101. A device according to claim 96 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

Sub G8
102. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,
wherein said channel region has least one portion containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub G8
122
103. A device according to claim 102 wherein said semiconductor layer is included in both n-channel and p-channel TFTs in a CMOS device of said electro-optical device.

104. A device according to claim 102 further comprising:

a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;

a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and

a pixel electrode on said second interlayer insulating film,

wherein said electro-optical device is a transparent type or a reflective type device.

*Publ
F5*
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~~105. A device according to claim 102 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Publ 123
106. A device according to claim 102 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

107. A device according to claim 106 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Publ 110
108. A device according to claim 102 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

109. A device according to claim 102 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

110. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,
wherein said channel region has least one portion containing carbon at a concentration of 1×10^{19} atoms/cm³ or more.

111. A device according to claim 110 wherein said semiconductor layer is included in both n-channel and p-channel TFTs in a CMOS device of said electro-optical device.

① Sub 125 112. A device according to claim 110 further comprising:
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein said electro-optical device is a transparent type or a reflective type device.

Sub F6 113. A device according to claim 110 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.

Sub 127 114. A device according to claim 110 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

115. A device according to claim ~~114~~ wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub 611
116. A device according to claim 110 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

117. A device according to claim 110 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

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118. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween; and
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,
wherein said channel region has least one portion containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more.

119. A device according to claim 118 wherein said semiconductor layer is included in both n-channel and p-channel TFTs in a CMOS device of said electro-optical device.

Sub 129
120. A device according to claim 118 further comprising:
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and

~~a pixel electrode on said second interlayer insulating film,
wherein said electro-optical device is a transparent type or a reflective type
device.~~

Sub F7
121. A device according to claim 118 wherein said ~~semiconductor device~~ comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.

122. A device according to claim 118 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

123. A device according to claim 122 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub G12
124. A device according to claim 118 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

125. A device according to claim 118 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

126. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween, and

a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween,

wherein said channel region has least one portion containing oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

127. A device according to claim 126 wherein said semiconductor layer is included in both n-channel and p-channel TFTs in a CMOS device of said electro-optical device.

Pub 128. A device according to claim 126 further comprising:

a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;

a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and

a pixel electrode on said second interlayer insulating film,

wherein said electro-optical device is a transparent type or a reflective type device.

pub F8 129. A device according to claim 126 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.

Pub 130. A device according to claim 126 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

131. A device according to claim 130 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub 613 > 132. A device according to claim 126 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

133. A device according to claim 126 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

① 134. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein said the source and the drain regions have at least one portion containing one or more elements selected from the group consisting of carbon, nitrogen, and oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub
F9

~~135. A device according to claim 134 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

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137

~~136. A device according to claim 134 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.~~

①

~~137. A device according to claim 136 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.~~

Sub G14

~~138. A device according to claim 134 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.~~

Sub
139

~~139. A device according to claim 134 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.~~

Sub G15

~~140. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;~~

a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein the source and the drain regions have at least one portion containing carbon at a concentration of 1×10^{19} atoms/cm³ or more.

Sub F10
~~141. A device according to claim 140 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Sub 142
① 142. A device according to claim 140 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

143. A device according to claim 142 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

Sub G14
144. A device according to claim 140 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 145
145. A device according to claim 140 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

146. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein the source and the drain regions have at least one portion containing nitrogen at a concentration of 1×10^{19} atoms/cm³ or more.

~~147. A device according to claim 146 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

148. A device according to claim 146 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.

149. A device according to claim 148 wherein said non-single crystalline semiconductor comprises one selected from the group consisting of amorphous silicon, polycrystalline silicon, and semi-crystalline silicon.

150. A device according to claim 146 wherein said channel region comprises boron at a concentration of from 1×10^{15} to 5×10^{17} atoms/cm³.

Sub 145 151. A device according to claim 146 wherein said portion is located adjacent to a boundary between the source and the channel regions or a boundary between the drain and the channel regions.

Sub 619 152. A semiconductor device for electro-optical device comprising:
a semiconductor layer comprising at least a channel region and source and drain regions with said channel region interposed therebetween;
a gate electrode adjacent to said channel region with a gate insulating film interposed therebetween;
a first interlayer insulating film over said semiconductor layer and said gate electrode, said first interlayer insulating film comprising inorganic material;
a second interlayer insulating film on said first interlayer insulating film, said second interlayer insulating film comprising organic resin; and
a pixel electrode on said second interlayer insulating film,
wherein the source and the drain regions have at least one portion containing oxygen at a concentration of 1×10^{19} atoms/cm³ or more.

Sub F12 ~~153. A device according to claim 152 wherein said semiconductor device comprises transistors selected from the group of a stagger type, an inverted stagger type, a planar type, and an inverted planar type transistors.~~

Sub 147 154. A device according to claim 152 wherein said semiconductor layer comprises a non-single crystalline semiconductor layer comprising one selected from the group consisting of silicon, germanium, and gallium arsenide.